

MAJOR REGULATIONS STANDARDIZED REGULATORY IMPACT ASSESSMENT SUMMARY

DF-131 (NEW 11/13)

STANDARDIZED REGULATORY IMPACT ASSESSMENT SUMMARY

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1. Statement of the need for the proposed major regulation.

The primary goals of staff's preliminary ADF proposal are two-fold: 1) establish a comprehensive, multi-stage process governing the commercialization of ADF formulations in California, and 2) to establish special provisions for biodiesel as the first recognized ADF to permit its use within the commercial fuels market in volumes and blends that will result in no significant adverse impacts on public health or the environment relative to conventional petroleum CARB diesel. Regulation of ADFs is necessary to ensure that the rapid development of these fuels does not interfere with the public health and environmental standards.

Due to the strongly complementary nature of these policies, the macroeconomic effects of the two programs are modeled together for the purposes of this SRIA (referred to as the combined LCFS/ADF proposal).

2. The categories of individuals and business enterprises who will be impacted by the proposed major regulation and the amount of the economic impact on each such category.

The proposed Regulation would have an impact on businesses producing, importing, and selling alternative diesel fuels in California.

3. Description of all costs and all benefits due to the proposed regulatory change (calculated on an annual basis from estimated date of filing with the Secretary of State through 12 months after the estimated date the proposed major regulation will be fully implemented as estimated by the agency).

Benefits:

Compared to the BAU scenario, which includes biodiesel that is used without mitigation and without an LCFS, this would yield a reduction in the amount of NOX emitted by biodiesel blends. ARB estimates that the magnitude of NOX reductions could be as large as 1,100 tons per year in the highest year, and cumulatively almost 5,000 tons from 2016 to 2023. Additionally, as a benefit of reducing NOX, secondary PM nitrates formed from NOX will be reduced.

Costs:

The initial direct costs incurred by regulated parties due to the ADF proposal is estimated as \$880,600 (using an annualized capital cost formula), which covers the cost of two new refinery facilities that will be needed to handle the additive requirements for the regulation. The ADF proposal has two parts: the multi-stage evaluation of new ADFs, and provisions for biodiesel use. The multi-stage portion of the ADF proposal consolidates existing requirements and adds certain low-cost procedures, so it is not expected to substantially increase costs. Therefore, this section will focus primarily on the costs incurred by the biodiesel provisions portion of the ADF proposal. To account for the annual operating and maintenance cost of the new facilities required to inject additives, ARB includes an additional \$40,000 per year for both facilities.

MAJOR REGULATIONS STANDARDIZED REGULATORY IMPACT ASSESSMENT SUMMARY

DF-131 (NEW 11/13)

4. Description of the 12-month period in which the agency estimates the economic impact of the proposed major regulation will exceed \$50 million.

The ADF proposal may exceed \$50 million in economic impacts in a twelve-month period following full implementation. The direct costs of the preliminary ADF proposal are highest in the year 2022 at \$14.57 million. It is unclear what the indirect and induced costs are, and it is unlikely that the total economic cost would exceed \$50 million in economic impacts. However, given the interaction between the ADF proposal and the LCFS proposal, staff is addressing both proposals in this SRIA.

5. Description of the agency's baseline:

For the baseline scenario, ARB constructed a forecast of California fuel prices over the period 2016 through 2023. The fuel prices are based on the 2014 U.S. Energy Information Agency's (EIA) Annual Energy Outlook reference scenario. The baseline does not include the LCFS or the ADF proposal; it does, however, include regulatory measures that influence the types and carbon intensities of transportation fuels consumed in California. These include:

- Advanced Clean Cars (ACC)
- U.S. Environmental Protection Agency's (U.S. EPA) Renewable Fuel Standard 2 (RFS2)
- State and Federal Transportation Fuel Trends
- ARB's In-Use Mobile Diesel Vehicle Regulations

6. For each alternative that the agency considered (including those provided by the public or another governmental agency), please describe:

- a. All costs and all benefits of the alternative
- b. The reason for rejecting alternative

Alternative 1: Submitted by Growth Energy

A) Costs and Benefits: ARB finds that the GE alternative would meet the emissions goals of the ADF proposal and achieve roughly the same emissions benefits as the ADF proposal. The GE alternative may achieve marginally more emissions benefits if biodiesel were to be widely used as an additive under the ADF proposal. Although the GE alternative is simpler than the ADF proposal, the GE alternative is unnecessarily strict; ARB's analysis of the science does not find that there are NOx increases with B5 animal biodiesel or biodiesel used in NTDEs, so requiring mitigation for these does not achieve any additional emissions benefit versus the ADF proposal. The GE alternative would require mitigation of more fuel than the ADF proposal; regulated parties would incur more costs to mitigate non-animal- and animal-based biodiesel similarly and setting the significance level for both at one percent. Additionally, the NTDE exemption would increase the volumes of fuels to be mitigated, further increasing the direct costs on regulated parties.

B) Reason for Rejection: ARB rejects the GE alternative because it costs more than the ADF proposal and does not achieve additional emissions benefits.

Alternative 2: Submitted by National Biodiesel Board

A) Costs and Benefits: The NBB alternative has lower emissions benefits than the ADF proposal. Setting an effective blend level of B10 as the mitigation threshold means that mitigation is occurring on much less biodiesel, resulting in greater in NOx emissions under the NBB alternative. However, since the NBB proposal could yield higher volumes of biodiesel than the ADF proposal, it may also lead to increased benefits from PM reductions. Since mitigation is not required until biodiesel blend levels are much higher than under the ADF proposal, costs for mitigating biodiesel are reduced in the NBB alternative. Additionally, the proposed three-year phase-in period would reduce the costs to regulated parties in the early years of the regulation. Together, these provisions result in lower costs on regulated parties over the life of the regulation.

B) Reason for Rejection: Because the NBB alternative achieves substantially less emissions benefits than the ADF proposal, does not meet the goals of the ADF proposal and ARB rejects the NBB alternative. However, ARB recognizes the difficulty in complying with a new fuel provision on biodiesel in the short term and recognizes that a phase-in period to allow regulated parties to accommodate changes to infrastructure and distribution networks, as well as certification of potential new mitigation options might be warranted if mitigation options are not entirely feasible on the effective date of a new regulation. Additionally ARB recognizes the potential for logistical difficulty in securing and implementing RD contracts brought up in the NBB alternative and is exploring alternative ways to utilize RD.

7. A description of the methods by which the agency sought public input. (Please include documentation of that public outreach).

**MAJOR REGULATIONS STANDARDIZED REGULATORY IMPACT
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The announcements for public workshops regarding ADF were posted on the ARB website and distributed through a listserve that included over 7,000 recipients. All materials presented at the workshops were also posted on the ARB website. The most recent workshops include:

- February 13, 2014: Public Workshop to discuss biodiesel use in extreme non attainment areas and other concepts;
- April 17, 2014: Public Workshop to discuss the regulatory strategy of the ADF proposal; and
- July 1, 2014: Public Workshop to discuss data from recently completed studies.

In addition to continuing efforts to solicit feedback from stakeholders about alternatives, exemptions, and alterations of the ADF and LCFS proposals, formal alternatives solicitation processes was implemented. A solicitation letter was sent via listserve and posted on the respective regulation websites; and responses are outlined in the alternatives section of this document.

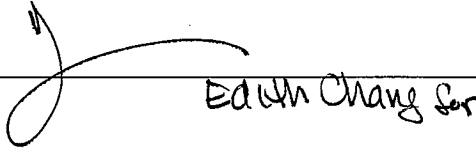
8. A description of the economic impact method and approach (including the underlying assumptions the agency used and the rationale and basis for those assumptions).

While the direct regulatory costs of the combined proposed regulations were estimated using the price of LCFS credits and the direct costs to comply with the ADF, the indirect costs and economic impacts for both proposed regulations are modeled jointly using a computational general equilibrium model of the California economy known as Regional Economic Models, Inc. (REMI). This is because the implementation of the two regulation is so linked. The REMI model generates year-by-year estimates of the total regional effects of a policy or set of policies. ARB used the REMI PI+ model for this analysis—a one-region, 160-sector model that has been modified by the Department of Finance to include California-specific data for population, demographics, and employment.

The following assumptions are used in the modeling of the proposed regulation:

- LCFS credit price is \$100 from 2016 through 2023;
- The full LCFS credit price is reflected in the final price of conventional fuels;
- The full value of the LCFS credit associated with electricity as a transportation fuel is reflected in a reduced electricity rate for electricity consumers;
- LCFS credit values are simulated as a decrease in production cost for natural gas and electricity and an increase for conventional fuels;
- Alternative fuels are priced at parity with their fungible conventional fuel;
- Production of conventional fuels in California remains static due to increasing exports offsetting anticipated reduction in conventional fuel demand in California;
- The volumes and types of fuels in the compliance scenario come on-line as anticipated; and
- Hydrogen is included in the volumes for the compliance scenario but excluded from the expenditure changes due to lack of reliable price data; therefore, any credit value associated with hydrogen is not included in the analysis.

The economic impacts of LCFS and ADF proposed regulations on the California economy are negligible, considering the size and diversity of California's economy. ARB estimates the LCFS and ADF proposals will have a combined impact of reducing California's Gross Domestic Product by less than 0.06 percent annually from 2016 through 2023. The changes to employment, investment and personal income are similar in size and direction. ARB interprets these results as small relative to the size of California's \$2 trillion economy and the uncertainty regarding inputs, particularly future prices for LCFS credits.

Agency Signature	Date
 Edwin Chang for	10/17/14
Agency Head (Printed) Richard Corey	